



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/710,058	11/10/2000	David Anderson	A-68531-1/RMS/JJD/SPL	4112

24353 7590 07/08/2003

BOZICEVIC, FIELD & FRANCIS LLP
200 MIDDLEFIELD RD
SUITE 200
MENLO PARK, CA 94025

EXAMINER

CELSA, BENNETT M

ART UNIT	PAPER NUMBER
----------	--------------

1639

DATE MAILED: 07/08/2003

16

Please find below and/or attached an Office communication concerning this application or proceeding.

file copy

Office Action Summary

Application No.
09/710,058

Applicant(s)
Anderson et al.

Examiner
Bennett Celsa

Art Unit
1639



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Apr 21, 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 14-19 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 14-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

Art Unit: 1639

DETAILED ACTION

Response to Amendment

Applicant's amendment dated 4/21/03 in paper no. 14 is hereby acknowledged.

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Status of the Claims

Claims 1-9 and 14-19 are currently pending and under consideration (to the extent of the elected invention.).

Election/Restriction

2. Applicant's election without traverse of Group I (claims 1-9) and the species rGFP in Seq. Id. 1 in Paper No. 10 is again acknowledged.
3. This application contains claims drawn to non-elected subject matter. A complete reply to the final rejection must include cancelation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Withdrawn Objection (s) and/or Rejection (s)

Applicant's showing of common ownership/obligation to assign the Anderson patent has overcome the use of the Anderson reference in the rejection of claims 1-9 under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. US Pat. No. 6,180,343 (1/01: filed 10/98) and Bryan et al. US Pat. No. 6,232,107 (5/01: filed 10/98 or earlier) with attached Result 4 DATABASE Alignment search..

Art Unit: 1639

Outstanding Objection (s) and/or Rejection (s)

Claim Rejections - 35 USC § 112

4. Claims 1-9 and 14-19 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention (lack of written description).

The present claims are directed to one or more (e.g. library) of cells or vectors comprising polynucleotides that encode Pitillosarcus or Renilla green fluorescent proteins (e.g. pGFP or rGFP) (which include the gene as well as c-DNA(s)) alone or “fluorescent variants” thereof (e.g. see specification definition on pages 5-7 : e.g. “substitutional, insertional or deletional”) in a fusion construct

The specification description is directed to a specific nucleotide sequence (e.g. seq. 1) that encodes green fluorescent proteins of specific peptide sequence (e.g. amino acid content and length)

With regard to the description requirement, Applicants' attention is directed to The Court of Appeals for the Federal Circuit which held that a “written description of an invention involving a chemical genus, like a description of a chemical species, ‘requires a precise definition, such as by structure, formula [or] chemical name,’ of the claimed subject matter sufficient to distinguish it from other materials.” *University of California v. Eli Lilly and Co.*, 43 USPQ2d 1398, 1405 (1997), quoting *Fiers v. Revel*, 25 USPQ2d 1601, 1606 (Fed. Cir. 1993)

Art Unit: 1639

(bracketed material in original)[The claims at issue in *University of California v. Eli Lilly* defined the invention by function of the claimed DNA (encoding insulin)].

In the present instance, the claimed invention contains no identifying characteristics regarding the DNA chemical structure which encodes a renilla green fluorescent protein e.g. the claims do not set forth any common features possessed by members of the genus of nucleotides encoding renilla green fluorescent proteins that distinguished them from other nucleotide encoding sequences. Additionally, the narrow scope of examples directed to specific nucleotide sequences which encode specific green fluorescent proteins are clearly not representative of the scope of renilla nucleotide encoding (including the gene) sequences of the presently claimed invention..

In this regard, applicant is referred to the seminal case of *University of California v. Eli Lilly & Co.*, 119 F.3d 1559, 43 USPQ2d 1398 (Fed. Cir. 1997) and the resulting “Guidelines for Examination of Patent Applications Under the 35 USC 112, first paragraph, ‘Written Description’ Requirement” published in 1242 OG 168-178 (January 30, 2001).

It is first noted that written description is legally distinct from enablement: “Although the two concepts of are entwined, they are distinct and each is evaluated under separate legal criteria. The written description requirement, a question of fact, ensures the that the inventor conveys to others that he or she had possession of the claimed invention; whereas, the enablement requirement, a question of law, ensures that the inventor conveys to others how to make and use

Art Unit: 1639

the claimed invention.” See 1242 OG 169 (January 30, 2001) citing *University of California v. Eli Lilly & Co*

With regard to the description requirement, Applicants' attention is directed to The Court of Appeals for the Federal Circuit which held that a “written description of an invention involving a chemical genus, like a description of a chemical species, ‘requires a precise definition, such as by structure, formula [or] chemical name,’ of the claimed subject matter sufficient to distinguish it from other materials.” *University of California v. Eli Lilly and Co.*, 43 USPQ2d 1398, 1405 (1997), quoting *Fiers v. Revel*, 25 USPQ2d 1601, 1606 (Fed. Cir. 1993) (bracketed material in original)[The claims at issue in *University of California v. Eli Lilly* defined the invention by function of the claimed DNA (encoding insulin)].

As pointed out in the above rejection, the specification discloses only limited examples that are neither representative of the claimed genus of polynucleotide sequences (cDNA's and genes) that encode Renilla GFP's and “fluorescent variants thereof”, nor is it clear that they represent a substantial portion of the claimed genus.

When the fed. circuit addressed a similar issue in *Eli Lilly*, it was determined that a disclosure of the sequence of rat cDNA was not descriptive of the broader invention consisting of mammalian and vertebrate cDNA, although it was a species falling within the scope of those claims. *Eli Lilly*, 119 F.3d at 1567-68, 43 USPQ2d at 1405. In *Eli Lilly*, the specification and generic claims to all cDNAs encoding for vertebrate or mammalian insulin did not describe the claimed genus because they did not set forth any common features possessed by members of the

Art Unit: 1639

genus that distinguished them from others. Id. At 1568, 43USPQ2d at 1405. Nor did the specification describe a sufficient number of species within the very broad genus to indicate that the inventors had made a generic invention, i.e., that they had possession of the breadth of the genus, as opposed to merely one or two such species. E.g. See *Enzo Biochem. Inc. v. Gen-Probe Inc.*, Case No. 01-1230 (Fed. Cir. July 15, 2002) (“EnzoII”).

Discussion

Applicant’s amendment and arguments directed to the above rejection were considered, but deemed nonpersuasive for the following reasons. Initially, it is noted that the above rejection was modified in response to applicant’s amendment.

Applicant argues that a full description of “rGFP” and “pGFP”, including a description of their structure, is to be found throughout the specification.

This argument was considered but not found to be persuasive. Applicant’s argument is not commensurate to the presently claimed invention which is not so limited since the claims encompass genes and cDNA’s as well as “variants” thereof which broadly encompasses substitutions, deletion and/or addition of amino acid or nucleotide sequence. As pointed out in the above rejection, the specification discloses only limited examples that are neither representative of the claimed genus of polynucleotides, nor is it clear that they represent a substantial portion of the claimed genus.

Accordingly, the above modified rejection is hereby maintained.

Art Unit: 1639

Claim Rejections - 35 USC § 102/ § 103

5. Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Aran et al. Cancer Gene Ther. (July/Aug 1998) pages 195-206 and the specification description (pages 5-6 and Fig. 1) as evidence to demonstrate inherency regarding ability of reference DNA structure to be “fluorescent rGFP variant”.

Aran et al. (e.g. see abstract and entire article) disclose retroviral vectors which “comprise” a GFP gene (e.g. a red-shifted green fluorescent protein from *Aequorea victoria*) and which further include a “first gene” (e.g. for multidrug resistance: MDR) and an internal ribosome entry site (e.g. IRES) which is expressed in living cells (e.g. “A cell” ie. mammalian as presently claimed); along with Beta galactosidase. The reference GFP gene is within the scope of the presently claimed invention (e.g. “rGFP fluorescent variant”) since it is a “derivative or variant” since it “exhibits the same qualitative biological activity as the native protein” (e.g. rGFP); and whose different nucleic acids from rGFP (e.g. see fig. 1 comparison between green fluorescent genetic sequence from *Aequorea victoria* and rGFP gene sequence) represent substitutions/insertions of respective nucleic acids. It is noted that the reference green fluorescent protein from *Aequorea victoria* meets the presently claimed structural and functional requirement (e.g. its a polynucleotide encoding a GFP) and it fits the parameters of the broad specification definition of what constitutes a rGFP fluorescent variant.

Art Unit: 1639

Discussion

Applicant's arguments directed to the above-identified rejection over the Aran et al. reference was considered but deemed nonpersuasive for the following reasons. Initially, it is noted that the above rejection was modified in response to applicant's amendment.

Applicant argues that Aran only discloses a vector encoding an *Aequorea victoria* GFP; and as such, Aran fails to disclose *Ptilosarcus* or *Renilla* GFP, as required by the instant claims, and accordingly, cannot anticipate the claimed invention".

Applicant's argument was considered but deemed nonpersuasive for the following reasons.

Initially, it is noted that applicant's argument directed to a *nonelected* invention is not relevant. With respect to the Renilla GFP (e.g. the elected invention) it is noted that applicant's argument is not persuasive since, as discussed in the modified rejection above, the reference polynucleotide encoding *Aequorea victoria* GFP represents a "fluorescent variant" of Renilla GFP within the scope of the presently claimed invention.

Accordingly, the above rejection, as modified, is hereby maintained.

Art Unit: 1639

6. Claims 4-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Abedi et al. Nuc. Acid Res. Vol. 26, No. 2 (1998) and the specification description (pages 5-6 and Fig. 1) as evidence to demonstrate inherency regarding ability of reference DNA structure to be “fluorescent rGFP variant”. .

Abedi et al (e.g. see abstract and entire article). teach the making of genetic constructs expressed within cells (e.g. E. Coli/yeast) of fusion proteins comprising “random peptide” and green fluorescent protein (*e.g. Aequorea victoria*) The constructs additionally comprise a “fusion partner” which corresponds to nucleotide linking sequence or peptide sequence leading to the formation of a conformational constraint. The reference GFP gene is within the scope of the presently claimed invention (e.g. “rGFP fluorescent variant”) since it is a “derivative or variant” since it “exhibits the same qualitative biological activity as the native protein” (e.g. rGFP); and whose different nucleic acids from rGFP (e.g. see fig. 1 comparison between green fluorescent genetic sequence from *Aequorea victoria* and rGFP gene sequence) represent substitutions/insertions. It is noted that the reference green fluorescent protein from *Aequorea victoria* meets the presently claimed structural and functional requirement (e.g its a polynucleotide encoding a GFP) and it fits the parameters of the broad specification definition of what constitutes a rGFP fluorescent variant.

Art Unit: 1639

Discussion

Applicant's arguments directed to the above-identified rejection over the Abedi. reference was considered but deemed nonpersuasive for the following reasons. Initially, it is noted that the above rejection was modified in response to applicant's amendment.

Applicant argues that Abedi only discloses a vector encoding an *Aequorea victoria* GFP; and as such, Abedi fails to disclose *Ptilosarcus* or *Renilla* GFP, as required by the instant claims, and accordingly, cannot anticipate the claimed invention".

Applicant's argument was considered but deemed nonpersuasive for the following reasons.

Initially, it is noted that applicant's argument directed to a *nonelected* invention is not relevant. With respect to the Renilla GFP (e.g. the elected invention) it is noted that applicant's argument is not persuasive since, as discussed in the modified rejection above, the reference polynucleotide encoding *Aequorea victoria* GFP represents a "fluorescent variant" of Renilla GFP within the scope of the presently claimed invention.

Accordingly, the above rejection, as modified, is hereby maintained.

7. Claims 1-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Anderson et al. US Pat. No. 6,180,343 (1/01: filed 10/98) and the specification description (pages 5-6 and Fig. 1) as evidence to demonstrate inherency regarding ability of reference DNA structure to be "fluorescent rGFP variant".

Art Unit: 1639

Anderson et al teach the use of green fluorescent proteins (e.g. *Aequorea victoria* GFP: see col. 2-3) in “random” and “defined” peptides fusion constructs (E.g. see col. 1, especially lines 1-15; col. 7-8) in retroviral vectors (e.g. libraries: see col. 19-20) which are expressed in cells to form libraries (e.g. cells; for screening). The genetic constructs further comprise internal ribosome entry sites (IRES: see col. 17, lines 15-30; col. 27, especially lines 5-20) and “fusion partners” (e.g. see col. 7-12 et seq.) within the scope of the presently claimed invention. The reference GFP gene is within the scope of the presently claimed invention (e.g. “rGFP fluorescent variant”) since it is a “derivative or variant” since it “exhibits the same qualitative biological activity as the native protein” (e.g. rGFP); and whose different nucleic acids from rGFP (e.g. see fig. 1 comparison between green fluorescent genetic sequence from *Aequorea victoria* and rGFP gene sequence) represent substitutions/insertions. It is noted that the reference green fluorescent protein from *Aequorea victoria* meets the presently claimed structural and functional requirement (e.g. its a polynucleotide encoding a GFP) and it fits the parameters of the broad specification definition of what constitutes a rGFP fluorescent variant.

Discussion

Applicant's arguments directed to the above-identified rejection over the Anderson reference was considered but deemed nonpersuasive for the following reasons. Initially, it is noted that the above rejection was modified in response to applicant's amendment.

Art Unit: 1639

Applicant argues that Anderson only discloses a vector encoding an *Aequorea victoria* GFP; and as such, Abedi fails to disclose *Pitilosarcus* or *Renilla* GFP, as required by the instant claims, and accordingly, cannot anticipate the claimed invention".

Applicant's argument was considered but deemed nonpersuasive for the following reasons.

Initially, it is noted that applicant's argument directed to a *nonelected* invention is not relevant. With respect to the Renilla GFP (e.g. the elected invention) it is noted that applicant's argument is not persuasive since, as discussed in the modified rejection above, the reference polynucleotide encoding *Aequorea victoria* GFP represents a "fluorescent variant" of Renilla GFP within the scope of the presently claimed invention.

Accordingly, the above rejection, as modified, is hereby maintained.

New Objection (s) and/or Rejection (s)

Claim Rejections - 35 USC § 102

8. Claims 4-6, 9 and 17-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Bryan et al. US Pat. No. 6,232,107 (5/01: filed 10/98 or earlier) with attached Result 4 DATABASE Alignment search.

Bryan et al. disclose and claim the use (e.g. diagnostics and "high throughput screening" e.g. libraries) of nucleic acid molecules encoding green fluorescent proteins (e.g. bioluminescent) from the genus *Renilla*, including reference Seq. ID No. 15 which is 98.4% (with best local similarity of 99.4%) homologous to elected seq. ID 1, differing by only one nucleotide (C vs. G)

Art Unit: 1639

and reference Seq. Id. No. 16 which has 100% sequence identity to the presently claimed Renilla GFP of Seq. Id. 2. See e.g. Reference Seq. Id 15 and attached Result 4 DATABASE Alignment search; and Reference sequence Id. 16. . Bryan et al. teach the use of the bioluminescent green fluorescent proteins in cellular assays (e.g. live cells, including mammalian) and in high throughput screening systems (e.g. employing libraries) (e.g. see col. 2-3; 14). The reference further teaches the use of a “fusion partner” (e.g. a targetting agent) in its genetic fusion constructs. See e.g. col. 24. Although teaching green fluorescent proteins from other sources, the use of renilla green fluorescent proteins is “more ideal for use as an analytical tool” (e.g. see col. 4-5); see also patent claims directed to Renilla sequence Id 15 and 16. Bryan et al. teach

Claim Rejections - 35 USC § 103

9. Claims 1-9 and 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bryan et al. US Pat. No. 6,232,107 (5/01: filed 10/98 or earlier) with attached Result 4 DATABASE Alignment search and Aran et al. Cancer Gene Therapy, Vol. 5, No. 4 pages 195-206 (1998). .

Bryan et al. disclose and claim the use (e.g. diagnostics and “high throughput screening” e.g. libraries) of nucleic acid molecules encoding green fluorescent proteins (e.g. bioluminscent) from the genus Renilla, including reference Seq. ID No. 15 which is 98.4% (with best local similarity of 99.4%) homologous to elected seq. ID 1, differing by only one nucleotide (C vs. G) and reference Seq. Id. No. 16 which has 100% sequence identity to the presently claimed Renilla

Art Unit: 1639

GFP of Seq. Id. 2. See e.g. Reference Seq. Id 15 and attached Result 4 DATABASE Alignment search; and Reference sequence Id. 16. . Bryan et al. teach the use of the bioluminescent green fluorescent proteins in cellular assays (e.g. live cells, including mammalian) and in high throughput screening systems (e.g. employing libraries) (e.g. see col. 2-3; 14). The reference further teaches the use of a “fusion partner” (e.g. a targeting agent) in its genetic fusion constructs. See e.g. col. 24. . Although teaching green fluorescent proteins from other sources, the use of renilla green fluorescent proteins is “more ideal for use as an analytical tool” (e.g. see col. 4-5); see also patent claims directed to Renilla sequence Id 15 and 16.

The Bryan et al. reference differs from the presently claimed invention (e.g. see claim 4) in failing to explicitly teach the use of a retrovirus as a vector.

However, the Bryan et al. reference clearly teaches vectors:

- a. “the [S]election and use of such vehicles” as being “well within the skill of the artisan”; and
- b. in mammalian hosts including “recombinant *virus*”, as well as plasmid and phages. See e.g. col. 23 (especially bottom) to col. 24.

But, the Aran et al. reference teaches the favorable use of retroviral vectors, both in vitro and in vivo including an internal ribosome entry site (IRES) for fusion constructs comprising GFP (e.g. *Aequorea victoria*) ; since “[T]his vector allows rapid and specific identification of the expressed protein (e.g. MDR1 gene transfer) in living cells (e.g. mammalian cells) ...” (E.g. see Abstract and page 195, especially right column).

Art Unit: 1639

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to utilize a retroviral vector as the "recombinant virus" vector disclosed for use in the Bryan et al. reference in order to appreciate the benefits thereof ; e.g. rapid and specific identification of the expressed protein.

10. Claims 1-9 and 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aran et al. Cancer Gene Therapy, Vol. 5, No. 4 pages 195-206 (1998) and. Bryan et al. US Pat. No. 6,232,107 (5/01: filed 10/98 or earlier)with attached Result 4 DATABASE Alignment search

Aran et al. (e.g. see abstract and entire article) disclose retroviral vectors which "comprise" a GFP gene (e.g. a red-shifted green fluorescent protein from *Aequorea victoria*) and which further include a "first gene" (e.g. for multidrug resistance: MDR) and an internal ribosome entry site (e.g. IRES) which is expressed in living cells (e.g. "A cell" ie. mammalian as presently claimed); along with Beta galactosidase. The reference GFP gene is within the scope of the presently claimed invention (e.g. "rGFP fluorescent variant") since it is a "derivative or variant" since it "exhibits the same qualitative biological activity as the native protein" (e.g. rGFP); and whose different nucleic acids from rGFP (e.g. see fig. 1 comparison between green fluorescent genetic sequence from *Aequorea victoria* and rGFPgene sequence) represent substitutions/insertions. It is noted that the reference red-shifted green fluorescent protein from *Aequorea victoria* meets the presently claimed structural and functional requirement (e.g its a

Art Unit: 1639

polynucleotide encoding a GFP) and it fits the parameters of the broad specification definition of what constitutes a rGFP fluorescent variant.

Although teaching the use of an *Aequorea victoria* GFP gene sequence in its vector/fusion constructs/libraries, the Aran et al. Reference differs from the presently claimed invention (e.g. claims 14-19) by failing to explicitly teach the use of a *Renilla* GFP gene sequence which encodes a GFP that is at least 90%, 95%, 100% identical to SEQ Id. 2.

Bryan et al. disclose and claim the use (e.g. diagnostics and “high throughput screening” e.g. libraries) of nucleic acid molecules encoding green fluorescent proteins (e.g. bioluminescent) from the genus *Renilla*, including reference Seq. ID No. 15 which is 98.4% (with best local similarity of 99.4%) homologous to elected seq. ID 1, differing by only one nucleotide (C vs. G) and reference Seq. Id. No. 16 **which has 100% sequence identity to the presently claimed Renilla GFP of Seq. Id. 2.** See e.g. Reference Seq. Id 15 and attached Result 4 DATABASE Alignment search; and Reference sequence Id. 16. . Bryan et al. teach the use of the bioluminescent green fluorescent proteins in cellular assays (e.g. live cells, including mammalian) and in high throughput screening systems (e.g. employing libraries) (e.g. see col. 2-3; 14). The Bryan reference further teaches the use of a “fusion partner” (e.g. a targeting agent) in its genetic fusion constructs. See e.g. col. 24. **Although teaching green fluorescent proteins from other sources e.g. *Aequorea victoria*; the use of renilla green fluorescent proteins is “more ideal for use as an analytical tool” (e.g. see col. 4-5); see also patent claims directed to Renilla sequence Id 15 and 16.**

Art Unit: 1639

Thus, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to utilize the Bryan et al. polynucleotide Renilla green fluorescent protein (including seq. Id 15) in the Aran et al. genetic constructs for purposes of performing screening assays (e.g. high throughput library screens) in order to obtain the benefits of the renilla protein in such assays as taught by the Bryan reference.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

General information regarding further correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Celsa whose telephone number is (703) 305-7556.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew J. Wang (art unit 1639), can be reached at (703)306-3217.

Any inquiry of a general nature, or relating to the status of this application, should be directed to the Group receptionist whose telephone number is (703) 308-0196.

Bennett Celsa (art unit 1639)
July 2, 2003

BENNETT CELSA
PRIMARY EXAMINER

